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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,751	10/27/2003	Masakazu Uesugi	NAN-0232	8839

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EXAMINER	
SOOHOO, TONY GLEN	
ART UNIT	**PAPER NUMBER**
1723	

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/692,751	UESUGI ET AL.	
	Examiner	Art Unit	
	Tony G. Soohoo	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Berchoux 4529321.

The Berchoux reference discloses a homogenizer with a fixed portion of the housing cover 1which is defined by the cover forming an inlets 1,6, and a disc shaped agitation rotor 2 with radial grooves formed between along the vanes 3 and 8,9 which faces in a face to face opposed manner to the fixed portion of the housing cover at 1 and the rotor and thereby providing a bearing clearance whereby raw liquids may be fed into by the inlets. It is deemed that such a configuration provides a "hydrodynamic bearing" to the same extent as applicant's allegation in the body of the claims whereby the Berchoux reference discloses all of the recited corresponding structural element as defined within the scope of the claims, and is capable to operate to be fed with plural raw fluids into the inlets. It has been held that a recitation with respect to the manner in

which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987)."the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. Whether the rejection is based on 'inherency' under 35 U.S.C. 102, on *'prima facie* obviousness' under 35 U.C.S. 102, jointly or alternatively, the burden of proof is the same." *In re Fitzgerald,* 205 USPQ 594 (CCPA 1980) (quoting *In re Best,* 195 USPQ 430, 433-434 (CCPA 1977)). It is further noted, "where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied upon" *In re Swinehart* 169 USPQ 226, 229 (CCPA 1971).

As explained in *In re Schreiber* 44 USPQ2d 1429 (CA FC 1997): "A patent applicant is free to recite features of an apparatus structurally or functionally. [ ] Yet, choosing to define an element functionally, *i.e.,* by what it does, carries with it a risk. As our predecessor court stated in *Swinehart,* 439 F.2d at 213, 169 USPQ at 228: where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied upon".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berchoux 4529321in view of Auerbach 1790967.

The Berchoux reference, as modified, discloses all of the recited subject matter as defined within the scope of the claims including with radial pumping grooves formed between along the vanes 3 and 8,9 which faces opposed to the fixed portion and an agitation groove formed there between vanes 3 and 8.

The Berchoux reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of pumping grooved being spiral shaped.

The reference to Auerbach 1790967 shows a disc impeller 5 vanes 6 which provides a spiral grooves there between and a portion radially between the vanes 6 best seen in figure 2, at 15 forming an agitation groove to produce a vortex, page 2, lines 23-33.

In view of the showing and discussion of Auerbach, figure 2, that a disk with vanes in the configuration of figure 2 may produce a vortex for emulsion, it is deemed that it would have been obvious to one of ordinary skill in the art to substitute the for the rotor groove arrangement with an arrangement as shown by Auerbach so that a vortex is formed for greater dispersion and emulsion of materials fed into the device of Berchoux.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berchoux 4529321 in view of US 2002/0060950 to Furukawa.

The Berchoux reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of having a pressure relief valve (release port) to adjust the pressure in the homogenizer bearing clearance space between the rotor and the fixed portion of the housing.

The reference to Furukawa teaches that an emulsifying means 60, see figure 1, may be fed material by a pump line inlet which has a relief valve 70 fluidly connected to the fluid inlet line. It is noted that the relief of pressure by valve 70 would inherently relieve pressure inside the emulsifying means 60, this may provide a desired safety feature to the emulsifying means, see paragraph [0071].

In view of the teaching of Furukawa that a relief valve may be connected to the inlet pressure feed line of an emulsifying device to provide a safety operation, it is deemed that it would have been obvious to one of ordinary skill in the art to provide a relief valve in the inlet pressure line of the Berchoux device so that the pressures inside

the chamber of the housing between the rotor and the housing is maintained in a safe operation parameter.

Response to Arguments

7. Applicant's arguments filed 12-6-2005 have been fully considered but they are not persuasive.

8. Applicant recites the operation of Berchoux reference on page 4 of the remarks. Applicant also recites the operation of the Wotring reference on pages 4 through page 5. In the middle of page 5 applicant points out details of claim 1, and states:

"Claim 1, as amended, is directed to a homogenizer comprising a thrust hydrodynamic bearing including a fixed portion and a disc-shaped agitation rotor that are opposingly arranged in a face-to-face manner to define a predetermined bearing clearance between the facially-opposing fixed portion and the agitation rotor. Claim 1 recites that a plurality of mutually incompatible raw liquids are introduced into the bearing clearance to be mixed and agitated in the bearing clearance by rotation of the agitation rotor."

Applicant on the bottom of page 5 generally alleges that the language is patentable over the prior art and states:

"It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 1 as amended. Specifically, it is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests a thrust hydrodynamic bearing that includes a fixed portion and a disc-shaped agitation rotor that are opposingly arranged in a face-to-face manner to define a predetermined bearing clearance between the facially-opposing fixed portion) and the agitation rotor. As a result of this arrangement, it is respectfully submitted that the applied art also fails to teach or suggest a plurality of mutually incompatible raw liquids that are introduced into the bearing clearance to be mixed and agitated in the bearing clearance by rotation of the agitation rotor. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention."

9. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

10. Furthermore applicant has removed language of structural cooperation of the hydrodynamic bearing providing a support of the rotor and now as amended to point out that the bearing now is more broadly interpreted as a structure which a fixed portion and rotor portion which provides a face to face opposed clearance for fluids without consideration of supporting the rotor. Applicant's cancellation of language of a hydrodynamic bearing which supports the rotation of the rotor has necessitated a new grounds of rejection and rendered arguments to the Wotring reference moot.

11. The new grounds of rejection above has addressed these new issues due to applicant's change in scope of the invention.

Conclusion

12. The prior art made of record in the previous office action and not relied upon is considered pertinent to applicant's disclosure. Uesugi et al 6869212 is a related to the cited references cited on PTO 1449. The following disclose disc rotors and a fixed portion: Messmore 2272573, Thompson et al 4172668, Ramsay 5984627, Cusi 2853280, Jacobsen 2239152, Zucker 3995838. The following disclose hydrodynamic

bearing systems: Ramsay 5984627 and 6210103, and 5827042, Schwartzman 4828402.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7-5PM,Tue-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tony G Soohoo
Primary Examiner
Art Unit 1723

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